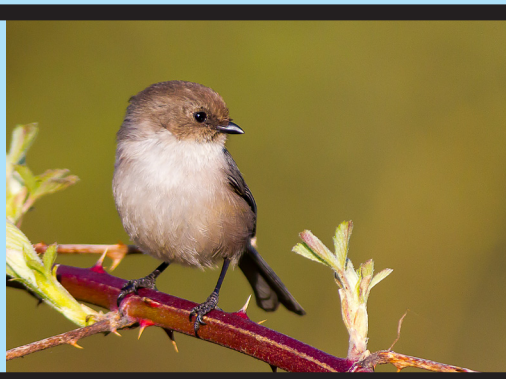
U.S. Fish & Wildlife Service

Steigerwald Lake National Wildlife Refuge Proposed Oaks Unit Addition

Draft Land Protection Plan and Environmental Assessment



Steigerwald Lake National Wildlife Refuge
Oaks Unit Addition
Land Protection Plan

Clark County, Washington
April 2014

Prepared by:
U.S. Fish and Wildlife Service
Ridgefield National Wildlife Refuge Complex

www.fws.gov/ridgefieldrefuges

Photo: Huntington

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A. Introduction

In this Land Protection Plan (LPP or Plan), the U.S. Fish and Wildlife Service (Service) describes the habitat protection methods that could take place for lands within Alternative 2 (Preferred Alternative) described in the Environmental Assessment (EA) for the proposed additions to the Steigerwald Lake National Wildlife Refuge (Refuge). This LPP includes a priority listing of private lands considered for purchase within the proposed acquisition boundary. The LPP also discusses the land acquisition priorities within the current Refuge acquisition boundary.

B. Project Location and Description

The Service proposes to expand the current acquisition boundary for Steigerwald Lake National Wildlife Refuge in Clark County, Washington (Map 1 in the EA). The Refuge is located near the town of Washougal and 20 miles east of the Portland–Vancouver metropolitan area. The Service currently owns 1,049 acres, or approximately 75 percent of the land, within the approved 1,406-acre acquisition boundary.

The proposed Oaks Unit expansion area, identified as the preferred alternative in the EA, includes approximately 88 acres of important and rare Oregon white oak woodland and savanna habitats on the northern edge of the current acquisition boundary. Some of the private landowners' desire to sell has prompted this planning action to expand the Refuge's acquisition boundary and to protect, conserve, and restore this important habitat. Once the acquisition boundary has been expanded, the Service can then begin to work with willing sellers to acquire priority habitats as funding becomes available.

C. Conservation Significance

The important ecological values within the proposed Oaks Unit expansion area include rare habitat types dominated by the Oregon white oak (*Quercus garryana*) tree species, considered a foundation species for one of the most endangered habitat types in North America (Maertens 2008). Although oak habitats can be broadly defined as oak woodland and oak savanna, considerable gradation occurs naturally between these two types. Both oak woodlands and oak savanna can be found in the proposed Oaks Unit expansion area.

Over the last 150 years, due to the decreasing frequency of habitat disturbance like fire, some areas that were formerly oak savanna have transitioned into oak woodlands. Additional trees have filled in the spaces formerly occupied by grasslands. The younger oaks are usually smaller in diameter and have more uniform growth patterns, being straight with few large lateral branches because of the reduced sunlight reaching below the canopy (Pacific Northwest Research Station 2007).

Oak woodlands are defined as pure oak or a mix of oak and conifer associations with oak constituting at least 25 percent of the forest crown cover. Stands may be co-dominated by other broadleaf trees. The understory is characteristically dominated by native shrubs such as ocean spray (*Holodiscus discolor*), oval-leafed viburnum (*Viburnum ellipticum*), California hazelnut

(*Corylus californica*), serviceberry (*Amelanchier alnifolia*), common snowberry (*Symphoricarpos albus*), trailing blackberry (*Rubus Ursinus*), Indian plum (*Osmaronia cerasiformis*), poison oak (*Toxicodendron diversilobum*), nootka rose (*Rosa nutkana*), and tall Oregon grape (*Berberis aquifolium*).

Oak savannas are oak-dominated stands described structurally as oak or mixed oak stands with total canopy coverage less than 25 percent, with oaks contributing 50 percent of the canopy coverage present. Conifers may comprise less than 25 percent of the crown cover. Other broadleaf trees (e.g., Oregon ash *(Fraxinus latifolia),* big leaf maple *(Acer macrophyllum),* and Pacific madrone *(Arbutus menziesii)*) may be co-dominant with oak. Typical native grass and forb species associated with oak savanna include Roemer's fescue (*Festuca roemeri*), red fescue (*Festuca rubra*), California oatgrass (*Danthonia californica*), American vetch *(Vicia americana),* western wood strawberry *(Fragaria vesca),* spring beauty *(Claytonia virginica),* chickweed *(Stellaria),* balsamroot *(Balsamorhiza sagittata),* and lupine *(Lupinus polyphyllus).* Oak savanna does not currently exist on the Refuge.

Oak woodlands and oak savannas are among the most imperiled ecosystems in western Washington. The lack of a natural fire regime has allowed conifers to dominate in Oregon white oak communities. This encroachment of conifers, primarily Douglas-fir (*Pseudotsuga menziesii*), shades out young oaks, changing the habitat to a predominantly fir forest. Lack of disturbance such as fire or mechanical management actions also limits oak regeneration by allowing dense monotypic understory of nonnative Armenian blackberry *(Rubus armeniacus),* which can exceed 7 feet in height. Oaks are slow growing, have a long maturation time, and cannot outgrow nonnative blackberry or other invasive species that compete for light within the understory.

More than 200 vertebrate and a profusion of invertebrate species use Washington's oak woodlands. In conjunction with other forest types, oak woodlands provide a mix of feeding, resting, and breeding habitat for a diversity of wildlife species. Many species associated with this unique system are of conservation concern due to declines in population, local extirpation, or close associations with this declining habitat.

The Oregon white oak forest type provides necessary habitat for the slender-billed white-breasted nuthatch (*Sitta carolinensis aculeata*) listed as a State Candidate by the Washington Department of Fish and Wildlife. The state's Natural Heritage Plan identifies this species as a Priority 1 species for protection. Listed by the state as threatened, the western gray squirrel *(Sciurus griseus)* is likely to occur in this habitat type, but its presence has not been confirmed by Refuge staff.

In addition, there are a number of rare plants and plant communities of importance listed as sensitive which occur in oak woodlands, including the smallflower trillium *(Trillium parviflorum)* and tall bugbane *(Cimicifuga elata).* Smallflower trillium has been found on the Refuge. Tall bugbane has not been found on the subject parcels, but is known to occur locally at Cape Horn and, in the future, could be established within the proposed acquisition boundary.

An important consideration in expanding the approved Refuge acquisition boundary is to link other publicly owned lands to create larger blocks of habitat to increase viability and

sustainability. Oregon white oak forest is officially designated as a Washington Department of Fish and Wildlife Priority 1 Habitat. There are approximately 976 acres identified within the Natural Resources Conservation Area (NRCA) in the Columbia River Gorge. The NRCA program was established to identify for protection outstanding examples of native ecosystems; habitats for endangered, threatened, and sensitive plants and animals; and scenic landscapes. In addition, the state has protected approximately 254 acres within the Washougal Oaks Preserve, part of the Natural Area Preserve (NAP) program.

D. Threats

Due to increases in residential and agricultural land development over the past decades, high-quality oak woodland habitats have become increasingly rare, which has created the need for greater habitat and wildlife protection and management. Land use and development within Clark County has been steadily increasing over the years. Located within a 20-mile drive of the Portland–Vancouver metropolitan area, the area around the Refuge has the potential to be impacted by further residential development. Bringing these parcels into the Refuge System would help protect them for enjoyment of future generations.

Increased habitat losses due to development in this area would only exacerbate habitat fragmentation and the loss of important habitats for the rare species that rely upon them. Loss of habitat would limit the ability of the Refuge and its partners to protect and restore important habitats and loss of habitat would negatively effect remaining conserved habitats.

Residential development, forest management, and agricultural practices over the years have profoundly changed ecological conditions within the area landscape. Altered streams create scouring and carry high sediment loads, and residential sites and road systems fragment habitat and modify hydrological processes in the watershed. The alteration or elimination of these forested habitats has a direct impact on wildlife, specifically migratory birds, due to reduction of nesting sites and foraging areas.

E. Purpose of the Proposed Expansion

The boundary expansion proposal would set the stage for the Refuge and its partners to work together to protect and manage the Oregon white oak woodland and oak savanna for healthy habitat conditions to promote higher bird abundances for a number of species, especially oak obligates. Management activities would focus on improving the quality of existing habitat and reducing the threats to those areas from invasive species. Refuge expansion would help alleviate the effects of increased habitat degradation and the loss of habitats in adjacent parts of the county. Expanding the approved Refuge boundary would allow the Service to negotiate with willing participants within the new approved boundary to acquire lands or interests in lands. Lands or interests in lands acquired by the Service would be managed as a part of the National Wildlife Refuge System (Refuge System).

The administration, management, and growth of the Refuge System are guided by the following goals: a) conserve a diversity of fish, wildlife, and plants and their habitats, including species that are endangered or threatened with becoming endangered; b) develop and maintain a network of

habitats for migratory birds, anadromous and interjurisdictional fish, and marine mammal populations that is strategically distributed and carefully managed to meet important life history needs of these species across their ranges; c) conserve those ecosystems, plant communities, wetlands of national or international significance, and landscapes and seascapes that are unique, rare, declining, or underrepresented in existing protection efforts; d) provide and enhance opportunities to participate in compatible wildlife-dependent recreation (hunting, fishing, wildlife observation and photography, and environmental education and interpretation); e) foster understanding and instill appreciation of the diversity and interconnectedness of fish, wildlife, and plants and their habitats.

Consistency with Regional Conservation Plans

The expansion boundary supports the following major regional conservation plans:

Comprehensive Conservation and Management Plan for the Lower Columbia River (2011). The Lower Columbia Estuary Partnership implements the Management Plan that contains 43 specific actions designed to protect and restore the lower Columbia River. The plan addresses seven priority conservation issues: biological integrity; habitat loss and modification; impacts from human activity; conventional pollutants; toxic contaminants; institutional constraints; and public awareness and stewardship. The plan considers individual species and conditions within the context of the whole ecosystem.

Washington Natural Heritage Plan (2007). The Washington Natural Heritage Plan (WDNR 2007) addresses the State's rare plants, plant associations, and landscape features. This program provides the framework for a statewide system of natural areas that provide habitat for rare and declining species and places for healthy, functioning ecosystems. The primary tool used to develop priorities for individual species is the global and state ranking system used by NatureServe and its member Natural Heritage programs. The proposed action is consistent with this plan because it identifies rare plant associations, such as oak woodlands.

Final Comprehensive Conservation Plan, Steigerwald Lake National Wildlife Refuge, Franz Lake National Wildlife Refuge, and Pierce National Wildlife Refuge (2005). Management of the proposed addition would directly support several of the goals identified in this plan for these Refuges (Steigerwald Lake, Franz Lake, and Pierce):

- Protect, restore, and enhance the natural diversity of upland forest and grassland habitats representative of the Lower Columbia River ecosystem.
- Reduce the impacts of nonnative and invasive species on native flora and fauna.
- Protect and enhance populations of native flora and fauna with an emphasis on state and federally listed threatened and endangered species, species of management concern, and their habitats.

Also identified in the CCP/EA are the wildlife-dependent recreational opportunities, which would be considered for new Refuge lands acquired in the future. These recreational opportunities would be implemented only if found to be appropriate and compatible.

Recovery Plans/efforts:

Washington State Recovery Plan for the Western Pond Turtle (1999). The western pond turtle was listed as a sensitive species by WDFW in 1981. This status was changed to threatened in 1983, and endangered in November 1993. The Columbia Gorge National Scenic Area Management Plan has placed a number of identified pond turtle habitats in categories which will protect them from development and alteration. The Refuge lies within the historic range of the western pond turtle and the proposed expansion area has the potential to provide winter hibernation habitat which consists of accessible, undisturbed upland sites with sparse vegetation and south-facing slopes.

This project would contribute to protecting the habitat linkage to NRCA and Washougal Oaks NAP lands adjacent to the expanded boundary. By combining the conservation efforts with a shared focus on restoring Oregon white oak forest habitat, success of this shared vision will result in landscape-level conservation measures that will help maintain native wildlife populations and help with the recovery of threatened and endangered species.

Authorities:

Authorities for the proposed expansion include the Fish and Wildlife Act of 1956, as amended (16 U.S.C. 742(a)-754), and the Migratory Bird Conservation Act of 1929 (16 U.S.C. 715-715d). The Fish and Wildlife Act of 1956 authorizes the Service to use funds made available under the Land and Water Conservation Fund Act of 1965 (16 U.S.C. 4601-4601-11) (LWCF) to acquire lands, waters, or interests therein for fish and wildlife conservation purposes. Federal monies used to acquire private lands through the LWCF are derived primarily from oil and gas leases on the outer continental shelf, motorboat fuel tax revenues, and the sale of surplus federal property.

F. Ownership and Types of Acquisitions

The proposed acquisition boundary is 88 acres. Private landowners hold approximately 89 precent of the land, and Friends of the Columbia River Gorge hold title to approximately 11 percent.

Within the current Refuge acquisition boundary, the Port of Washougal and the State of Washington hold approximately 4 percent, and one private individual owns approximately 17 percent of these lands (see Table 1 and Map 1 in the EA).

Acquisition efforts would be prioritized by funding availability and necessary wildlife and habitat protection priorities.

G. Habitat and Land Protection

Willing Seller Policy

It is the policy of the Service to acquire lands only from willing landowners. Landowners within the approved Refuge acquisition boundary who do not wish to sell their property or any other

interest in their property are under no obligation to negotiate with or sell to the Service. In all acquisitions, the Service is required by law to offer 100 percent of the fair market value, as determined by an appraisal completed by a professional certified appraiser, in accordance with the Uniform Appraisal Standards for Federal Land Acquisitions (http://www.fws.gov/policy/341fw1.html).

Under the Relocation Assistance and Real Property Acquisition Policies Act, as amended, landowners who sell their property to the Service may be eligible for certain benefits and payments. These payments may include reimbursement of reasonable moving expenses; replacement housing payments under certain conditions; relocation assistance services; and reimbursement of certain expenses incurred in selling real property to the federal government, such as closing costs.

Habitat and Land Protection Methods

A variety of habitat and land protection methods can be used to preserve fish and wildlife habitat. The actual method selected for any individual parcel will depend upon both the needs and desires of the landowner and the Service. If a mutual agreement cannot be reached, the landowner retains full use, control, and responsibility for the property. Cooperative efforts could involve key partners, including the Friends of the Columbia Gorge, the Columbia Land Trust, and others.

Cooperative Agreements. The Service can enter into cooperative agreements with landowners to improve wildlife habitat management. Cooperative agreements may specify shared responsibilities or a transfer of funds from the Service to another entity or vice versa for management purposes. Cooperative agreements can be used for lands under any type of ownership.

Conservation Easements. Conservation easements transfer some, but not all, property rights to the Service as specified by mutual agreement. Easements are managed in partnership with landowners and enable traditional lower-impact land uses (such as forestry and agriculture) to continue on the landscape, while protecting wetlands and wildlife habitat. Under a conservation easement, a landowner could agree not to engage in activities damaging to wildlife habitat resources or the Service could manage the land for wildlife. The Service can acquire easements through purchase, donation, or exchange. The property owner retains all responsibility for paying property taxes. The Service could negotiate conservation easements on land under any type of ownership.

Fee Title Acquisition. A fee title interest is normally acquired when 1) the fish and wildlife resources on a piece of property require permanent protection that is not otherwise available; 2) the property is needed for development associated with public use; 3) a pending land use could otherwise harm wildlife habitats; or 4) purchase is the most practical and economical way to assemble small tracts into a manageable unit. Fee title acquisition conveys all property rights held by the landowner to the federal government. A fee title interest may be acquired by purchase, donation, or exchange.

Refuge Habitat Protection Priorities

Table 1, Lands within the Preferred Alternative's Proposed Acquisition Boundary and Lands inside the Current Acquisition Boundary, and Map 3 (page 14) list the available lands within the preferred alternative Oaks Unit proposal to expand the Refuge boundary by 88 acres and lands within the current Refuge boundary held by others. The tracts are listed by ownership, tract number, total acres, county identification, and Refuge priority (ownership information is from the Clark County Assessor's Office and is subject to change). Priorities 1, 2, or 3 are assigned to each tract: 1 represents the highest priority parcels.

Tracts are being considered for acquisition because of their biological significance, existing or potential threats to wildlife habitat, significance of the area to Refuge management and administration, or existing commitments to purchase or protect the land. Landowners within the proposed Refuge boundary and approved Refuge boundary may or may not wish to participate in the Service's habitat protection objectives, or may not wish to divest themselves from their land management responsibilities. Based on this, the final configuration of the acquired land is impossible to predict. However, because the parcels have been identified and the potential effects of converting those lands to Refuge status have been assessed in the LPP/EA, the delineated proposed expansion boundary will provide the Service with future habitat protection options if willing sellers and available funds present themselves in the future.

Table 1. Lands within the Preferred Alternative's Proposed Acquisition Boundary and Lands inside the Current Acquisition Boundary.

Landowner Name	Tract	Acres	Clark County ID	Refuge Priority
Land inside the proposed Refuge acquisition boundary expansion				
Friends of the Columbia Gorge	19	4.97	134393-000	1
Friends of the Columbia Gorge	19	3.17	134384-000	1
Friends of the Columbia Gorge	19	1.92	134386-000	1
Warren/Misarti	20	13.11	134370-000	1
Warren	21	48.36	134378-000	1
Warren	21	6.44	134389-000	1
Cathcart	22	4.15	134392-000	1
Cathcart	22	0.65	134398-000	1
Cathcart	22	0.68	134396-000	1
Murrell	23	5.0	1343888-000	2
Land inside the current Refuge acquisition boundary				**Refuge Priority**
State Lands	2	7.25	1355070-000	3
Port of Washougal	9/9a	48.57	986029-675	2
James	12a	29	135819-000	2
James	12a	205.44	135508-000	2

H. Conceptual Management and Project Costs

The Oaks Unit would be managed by the Ridgefield National Wildlife Refuge Complex. Currently there is a Refuge Manager available at the Steigerwald Lake Refuge office. It is expected that no new staff would be required to manage the Oaks Unit if acquired. These expenditures will come out of the existing budget and no new appropriations would be needed.

Future management of the Oaks Unit would focus on the purposes of the Unit, which express the importance of protecting and restoring the rare habitat. The Oaks Unit is proposed for the following purposes: *for the conservation and protection of Oregon white oak woodland, oak savanna, and mixed Oregon white oak/Douglas-fir forest types and the wildlife these habitats support* (see section 1.3, 2013 Environmental Assessment). From a conceptual perspective, the Refuge would focus on the management of the habitats to restore and maintain the historic native oak woodland and oak savanna and their associated habitats on these lands. Removal of invasive species and planting and managing forest and forest understory would occur to create a viable and sustainable Oregon white oak ecosystem. Management of the habitats would likely include control of Armenian blackberry and other invasives along woodland edges and open fields with herbicide or mechanical treatments consistent with the Refuge's Integrated Pest Management (IPM) program. The Refuge would work in concert with partners when feasible to enhance and protect wildlife habitats locally and on a landscape scale. Research and monitoring would be implemented to ensure management practices are being conducted to meet habitat goals and objectives.

Priority wildlife-dependent recreational and educational opportunities that may be offered include an Oaks Unit Interpretive Trail or Overlook. A trail or overlook could offer opportunities for wildlife observation, photography, environmental education, and interpretation highlighting the habitat. Whenever possible, the talents and skills of volunteers and the Columbia Gorge Refuge Stewards (the Refuge Friends support group) would be utilized for various projects. Planning and design for wildlife dependent public use activities would require future public involvement and site-specific compliance requirements.

Refuge Law Enforcement Officers would work with local and state jurisdictions to control trespass, enforce fish and wildlife laws, and ensure the safety of visitors. Lands acquired by the Service would be posted with Refuge boundary signs. Signage, and in some cases fencing, on Service-owned lands is necessary to control trespass.

The budget for restoration of the unit is approximately $100,000, which would be spread out over several years. Annual maintenance costs are expected to be $10,000–$15,000. The approximate total costs to purchase the 88 acres are estimated at $1,274,833 and would likely come from the LWCF. In addition to the LWCF, the following funding sources could be leveraged through partnerships to acquire lands and easements: a) North American Wetlands Conservation Act; b) Migratory Bird Conservation Fund; and c) Bonneville Power Administration. Ownership of some of the properties could be transferred to the Service at no cost through donations.

Acquisition efforts would be prioritized by funding availability and necessary wildlife and habitat protection priorities. Fee title and conservation easements would all be considered as options to acquire lands in this area.

Under the Relocation Assistance and Real Property Acquisition Policies Act, as amended, landowners who sell their property to the Service may be eligible for certain benefits and payments that are described in Section G. Habitat and Land Protection.

Under the provisions of the Refuge Revenue Sharing Act (RRSA) (Public Law 95-469), the Service would annually reimburse Clark County for tax revenue that is lost as a result of the Service's acquisition of private property. This law states that the Secretary of the Interior (Secretary) shall pay to each county in which any area acquired in fee title is situated, the greater of the following amounts:

- An amount equal to the product of 75 cents multiplied by the total acreage of that portion of the fee area that is located within such county.

- An amount equal to three-fourths of 1 percent of the fair market value, as determined by the Secretary, for that portion of the fee area that is located within such county.

- An amount equal to 25 percent of the net receipts collected by the Secretary in connection with the operation and management of such fee area during such fiscal year. If a fee area is located in two or more counties, however, the amount for each county shall be apportioned in relationship to the acreage in that county.

Some payments to the counties have been less than the legislated amounts due to lack of appropriations provided by Congress. Congress may appropriate, through the budget process, supplemental funds to compensate local governments for any shortfall in revenue sharing payments. Payments under the RRSA would be made only on lands that the Service acquires in fee title. On lands where the Service acquires only partial interest through easement, all taxes would remain the responsibility of the individual landowner.

The most recent RRSA payment to Clark County for Steigerwald Lake Refuge in November 2012 was for 2011, and totaled $2,760 based on the 2001 Refuge Revenue Share Appraisal and may be representative of federal budgetary constraints determined annually by Congress.

I. Public Attitude and Involvement

The Service worked with a variety of interested parties to identify issues and concerns associated with the proposed Refuge expansion. These interested parties included members of the public, interested private groups, landowners, elected officials, and state, federal, tribal, and local government agencies. The Service's public involvement activities include meetings, developing and mailing a planning update, requesting information, undertaking consultations, responding to inquiries, and providing information about the proposal to the media and other interested or affected parties.

Several agencies and individuals have expressed support for the proposed addition to the Refuge. These include Camas Mayor Paul Denis, Washougal Councilman Paul Greenlee, Clark County Legacy Lands, Friends of the Columbia Gorge (FOCG), Columbia River Gorge NSA Commission, Washington Department of Natural Resources, Washington Department of Fish and Wildlife, and the Columbia Land Trust (CLT). Additionally, FOCG and CLT have both offered to be involved in acquiring the properties.

J. Recommendation

The expansion of the Refuge would: 1) contribute to the protection and overall health and function of the Oregon white oak forest/oak savanna habitats; 2) create an opportunity to enhance and restore Oregon white oak forests and re-establish forest biodiversity and the successional stages that support long-term mature forest function; 3) protect and restore important migratory bird habitat, especially for species of concern such as the slender-billed white-breasted nuthatch, and for other wildlife, including the threatened western gray squirrel; 4) protect and restore a healthy understory to support rare plant species such as the bolandra, tall bugbane, and small flowered trillium, and many other native plant species; and 5) provide high-quality wildlife-dependent public use where appropriate.

The deciding official will be the Regional Director and upon approval of this LPP/EA, the Refuge staff may begin to work with willing sellers as funding allows.

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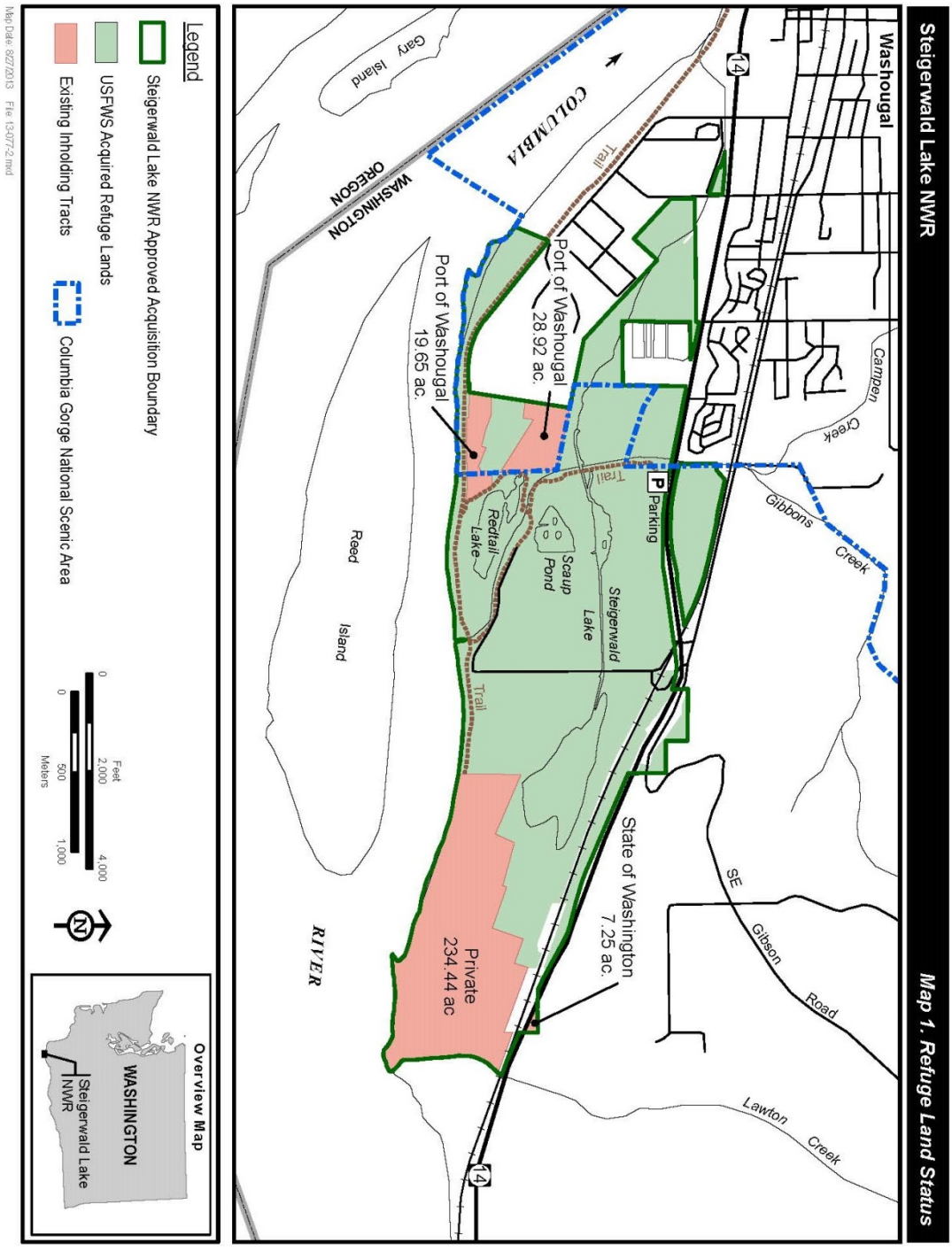
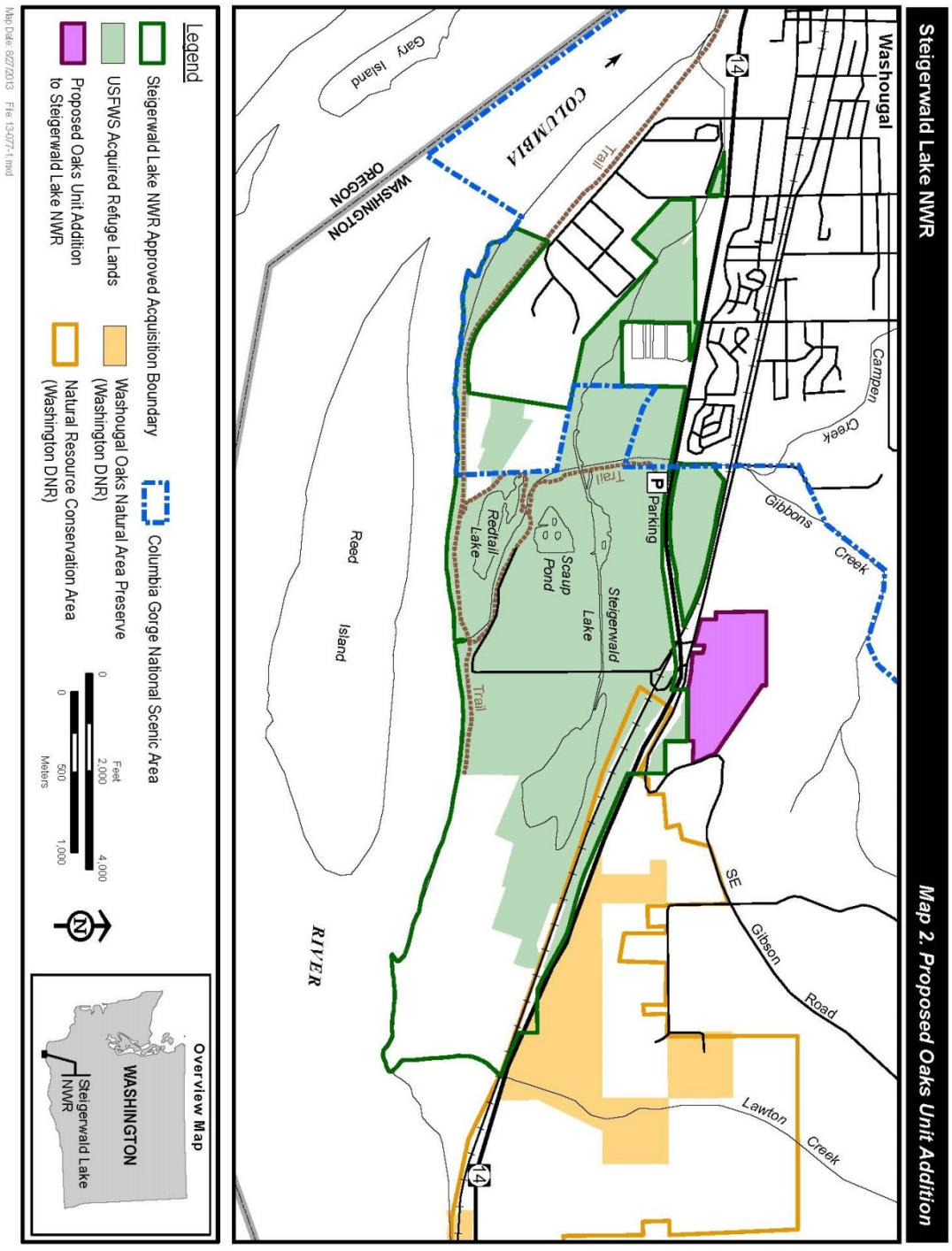
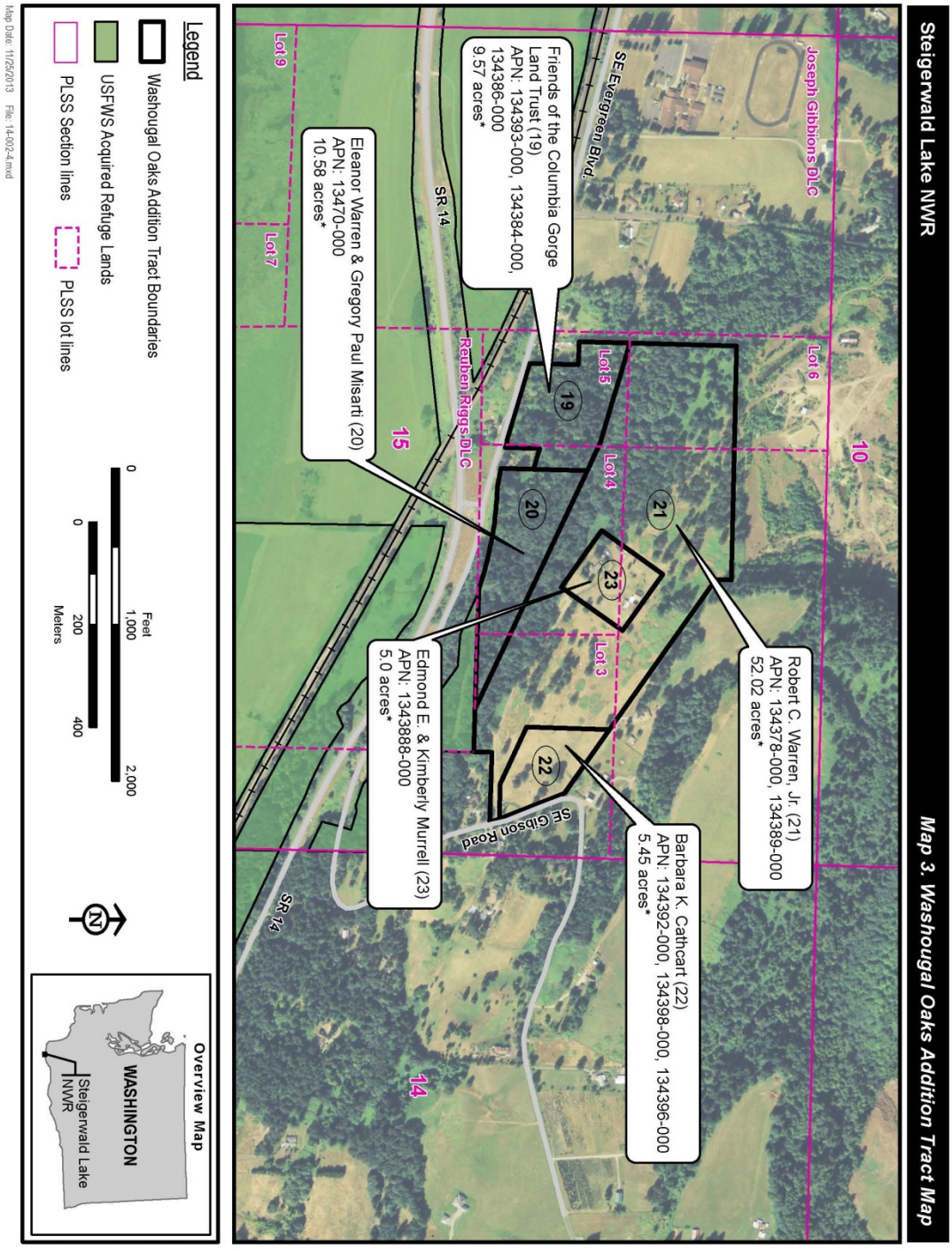
Map 1. Steigerwald Lake National Wildlife Refuge Land Status



Map 2. Proposed Oaks Unit Addition



Map 3. Washougal Oaks Addition Tract Map



Draft Environmental Assessment

Proposed
Oaks Unit Addition
to

Steigerwald Lake National Wildlife Refuge

Clark County, Washington

April 2014

Prepared By:
U.S. Fish and Wildlife Service
Ridgefield National Wildlife Refuge Complex

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Chapter 1. Purpose and Need for Action

1.1 Introduction

The U.S. Fish and Wildlife Service (Service) is the primary Federal agency responsible for conserving and enhancing the Nation's fish and wildlife populations and their habitats. Although the Service shares this responsibility with other Federal, state, tribal, territorial, local, and private entities, the Service has specific trust responsibilities for migratory birds, federally listed threatened and endangered species, and certain anadromous fish and marine mammals. Service efforts over the last 100 years to protect wildlife and their habitats have resulted in a network of protected areas that form the National Wildlife Refuge System (Refuge System). This network of protected areas is the largest and most diverse in the world. Refuge System lands provide essential habitat for numerous wildlife and plant species, wildlife-dependent recreational opportunities for the public, and a variety of benefits to local communities.

1.2 Proposed Action

The Service proposes to expand the current approved acquisition boundary for Steigerwald Lake National Wildlife Refuge (Refuge, NWR) in Clark County, Washington (Maps 1 and 2). The Service is reviewing available lands near the Refuge with high habitat and wildlife conservation values. The Service's Land Acquisition Program is one that works with willing sellers only and has no requirements from land owners within the approved Refuge boundary. The area described for the proposed acquisition boundary expansion is referred to as the Oaks Unit, identified for the rare oak woodland and oak savanna habitat types on these lands.

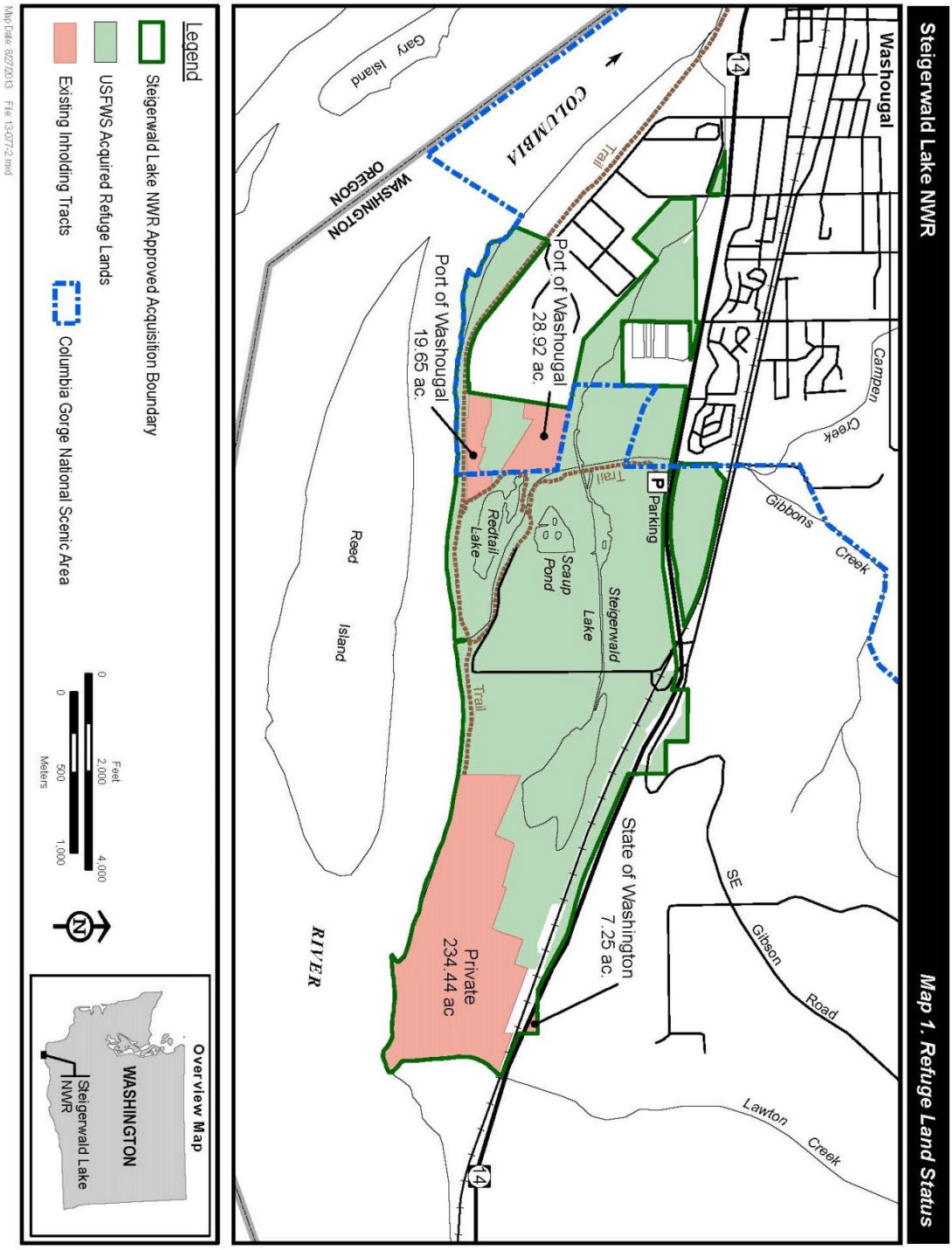
In this draft Environmental Assessment (EA), the Service identifies the purpose and need for protecting and enhancing the wildlife and habitat associated with the proposed boundary expansion and analyzes the consequences of the alternatives. If fully acquired in the future, the Oaks Unit would add approximately 88 acres to the northern section of the current acquisition boundary.

This document was prepared in compliance with the National Environmental Policy Act of 1969 (NEPA), as amended (42 U.S.C. 4321 et seq.).

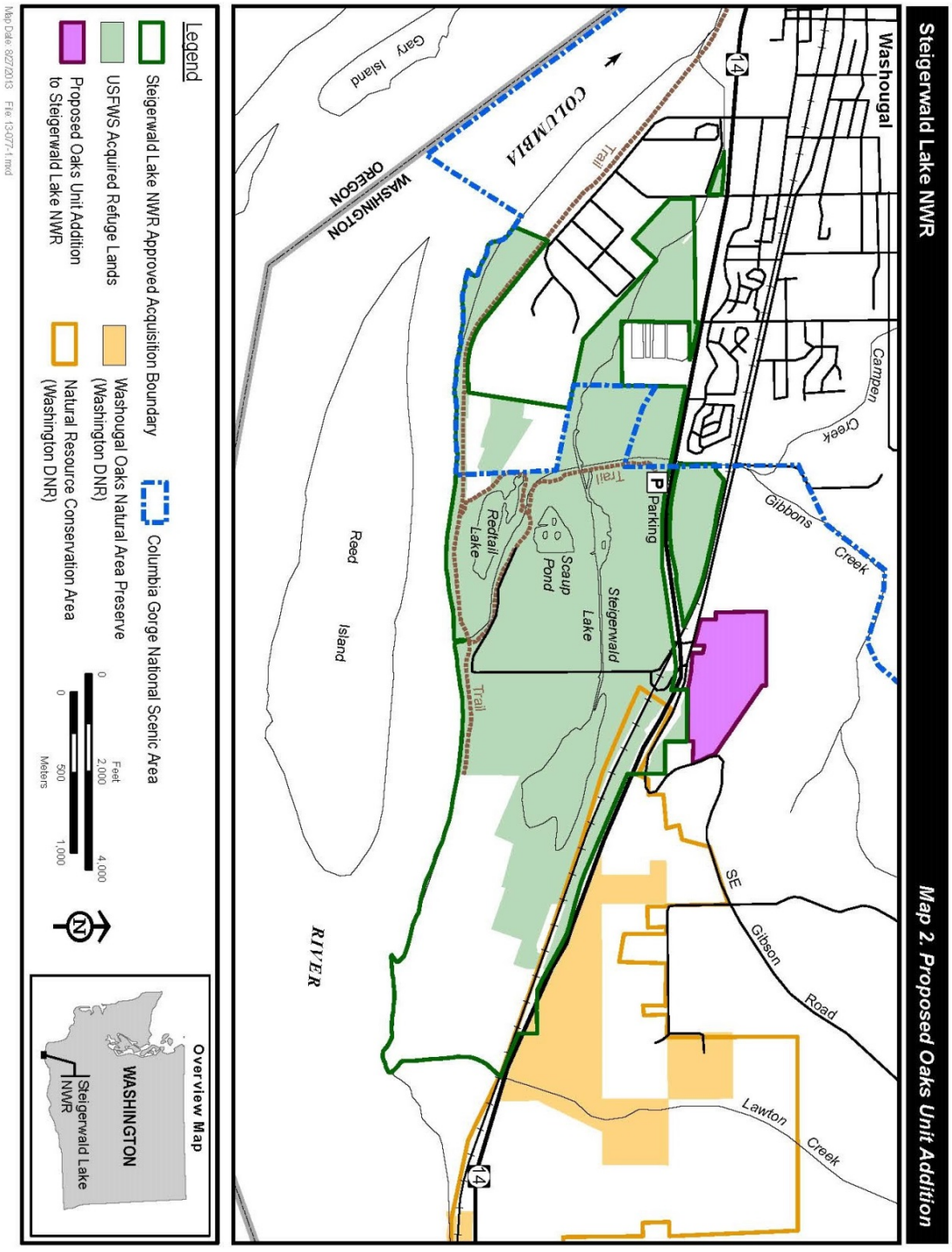
1.3 Purpose and Need of Proposed Action

The Service identifies the purpose(s) of a refuge when it is initially established or, as in this case, when new lands are proposed for addition to an existing refuge. This EA proposes to expand the current Refuge acquisition boundary by approximately 88 acres, so the Refuge may in the future work with willing sellers to acquire habitats for the Refuge. The purpose of the proposed Oaks Unit addition reflects the core mission of the Service. The Oaks Unit is proposed for the following purposes: *for the conservation and protection of Oregon white oak woodland, oak savanna, and mixed Oregon white oak/Douglas-fir forest types and the wildlife these habitats support.* By conserving this important habitat, the Service would contribute to the protection of several state-listed and species of conservation concern. Protection of these important resources

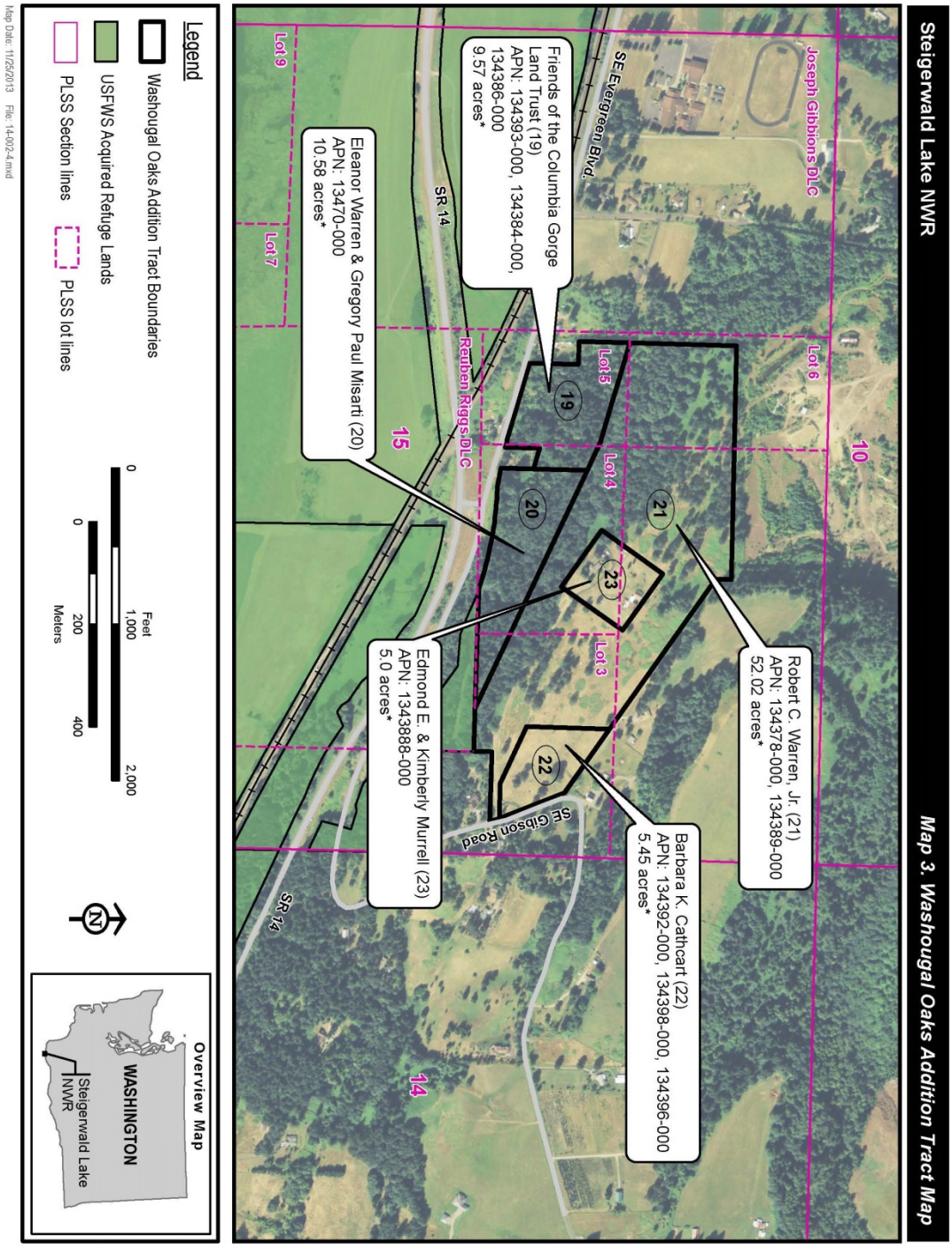
Map 1. Steigerwald Lake National Wildlife Refuge Land Status



Map 2. Proposed Oaks Unit Addition



Map 3. Washougal Oaks Addition Tract Map



would also create an opportunity to enhance, and where necessary, restore this rare habitat type for wildlife and habitat diversity.

The proposed Oaks Unit expansion area includes large diameter Oregon white oak trees that support a rare subspecies of nuthatch—the slender-billed white-breasted nuthatch (*Sitta carolinensis aculeata*)—a state-listed bird and a species of conservation concern. The area may also have the potential to support other rare wildlife, including the western gray squirrel *(Sciurus griseus)*. Management of the forest would ensure future successional stages of healthy forest growth and help ensure replacement of the large diameter oaks. Maintaining healthy oak forests and oak savanna habitats would help provide a quality understory to support rare plant species such as the bolandra (*Bolandra oregana*), tall bugbane (*Cimicifuga elata*), small flowered trillium (*Trillium parviflorum*), and many other native plant species that support birds and other wildlife.

The proposed expansion is necessary because high-quality oak woodland habitats have become increasingly rare over the past decades due to increases in land development and conversion to agriculture. Located within a 20-mile drive of the Portland–Vancouver metropolitan area, the area around the Refuge has the potential to be affected by increasing residential development. The land parcels considered within the proposed boundary expansion area have three separate Clark County zoning restrictions, all under the Columbia River Gorge National Scenic Area Act: agricultural, small woodland, and residential single family, which could result in alteration or development. Increased habitat losses would exacerbate habitat fragmentation and the loss of important habitats for rare species that rely upon them.

Under Refuge System policy, new lands acquired for an existing refuge must also incorporate the primary purposes for which the existing refuge was established. Thus, the primary purposes for Steigerwald Lake NWR would also apply to the proposed additions, if the Service acquires them. The Service defines the purposes of a refuge when it is established. The purposes of Steigerwald Lake National Wildlife Refuge are

- "... for the fish and wildlife mitigation purposes ... " 98 Stat. 1423, dated Aug. 22, 1983
- "... for the development, advancement, management, conservation, and protection of fish and wildlife resources ..." 16 U.S.C. § 742f(a)(4)
- "... for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude ..." 16 U.S.C. § 742f(b)(1) (Fish and Wildlife Act of 1956)

1.4 Boundary Expansion Area – Proposed Oaks Unit

The proposed Oaks Unit expansion encompasses five landowners and nine parcels totaling approximately 88 acres, shown in Map 2 (page 3), Table 1 (below). The Land Protection Plan (LPP) includes other lands not owned by the Service that are within the current acquisition boundary and identified in Map 1 (page 2) and Table 2 (below).

Table 1. Lands within the Oaks Unit (Preferred Alternative) Proposed Expansion Boundary

Landowner Name	Tract	Acres	Clark County ID
Friends of the Columbia Gorge	19	4.97	134393-000
Friends of the Columbia Gorge	19	3.17	134384-000
Friends of the Columbia Gorge	19	1.92	134386-000
Warren/Misarti	20	13.11	134370-000
Warren	21	48.36	134378-000
Warren	21	6.44	134389-000
Cathcart	22	4.15	134392-000
Cathcart	22	0.65	134398-000
Cathcart	22	0.68	134396-000
Murrell	23	5.0	134388-000
Total		88.45	

Table 2. Lands not acquired inside the Current Acquisition Boundary

Landowner	Tract	Acres	Clark County ID
State Lands	2	7.25	1355070-000
Port of Washougal	9/9a	48.57	986029-675
James	12a	29.00	135819-000
James	12a	205.44	135508-000
Total Acres		290.26	

Other Locally Protected Areas

As part of a combined effort of state and Federal agencies, the state of Washington developed a Natural Resources Conservation Area (NRCA) to conserve rare oak woodland habitats and protect important plant and wildlife species in the local area. Within the NRCA and located a few hundred yards to the east of the proposed Oaks Unit expansion is the state's Washougal Oaks Natural Area Preserve (NAP) (see Map 2). The NAP contains one of the two best remaining occurrences of the Oregon white oak/oval-leaf viburnum-poison-oak (*Quercus garryana/Viburnum ellipticum-Toxicodendron diversiloba*) forest association, a Priority 1 element in the *2001 State of Washington Natural Heritage Plan*. According to the state's NAP program, this plant association is considered critically imperiled on a global scale because of the small number of occurrences, small global range, and high degree of threats. The Washougal Oaks NAP is part of the largest relatively contiguous area of oak woodland remaining in western Washington. The Oaks Unit of the Refuge would support and expand greater landscape protections of these important habitats.

The Washougal Oaks NAP supports three animal and four plant species listed by the state as priorities in the Natural Heritage Plan. Examples of the animals include the slender-billed white-breasted nuthatch (*Sitta carolinensis aculeata*), a subspecies (Priority 1 in the Natural Heritage Plan) that has declined significantly and is now regularly present in the state only in the Washougal Oaks area and Ridgefield NWR (2012 WDFW). Examples of the plant species occurrences include two of the 13 total statewide known occurrences of bolandra (*Bolandra*

oregana), and one of only seven statewide occurrences numbering more than 50 individuals of tall bugbane (*Cimicifuga elata*).

1.5 Decisions to be Made

Based on the analysis documented in this EA, the LPP, and public input, the Regional Director for Region 1 will determine whether to expand the acquisition boundary of Steigerwald Lake NWR. If the Regional Director determines that expanding the Refuge is appropriate, a decision will be made as to whether the selected acquisition boundary change would have significant impacts on the quality of the human environment.

1.6 Public Involvement and Identification of Issues

The Service worked closely with a number of government agencies, nongovernmental conservation organizations, affected landowners, Refuge neighbors, and other interested stakeholders and citizens to identify issues and develop this proposal. Many individuals identified land acquisition and management as issues for the Refuge to consider if lands are added to the Refuge in the future. Specifically, some concerns were expressed regarding the effects of future acquisition:

- Acquisition and management costs and funding;
- Short-term versus long-term conservation benefits;
- Habitat and invasive species management; and
- Public recreation/education/access.

These issues and the effects of the land acquisition on other features of the affected environment, including species of concern and other native wildlife, the local economy, and conceptual management of any acquired lands, are considered in this draft LPP/EA

In conjunction with the release of the draft LPP/EA, a planning update is being distributed to interested parties, accompanied by a news release and posting on the Ridgefield National Wildlilfe Refuge Complex, Steigerwald Lake NWR, and Columbia Gorge Refuge Stewards websites (http://www.fws.gov/ridgefieldrefuges/complex/index.html, http://www.fws.gov/ridgefieldrefuges/steigerwaldlake/index.html, http://www.refugestewards.org/).

1.7 National Wildlife Refuge System and Authorities

The mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Steigerwald Lake NWR is managed as part of the Refuge System within a legal and policy framework. The Refuge is guided by the mission and goals of the Refuge System and the purposes of the Refuge as described in its acquisition authorities. Management programs are

developed and conducted in compliance with international treaties, applicable Federal laws and Executive orders, and Service policy.

The authorities for this habitat protection effort are the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. § 668dd-668ee) (Refuge Administration Act), as amended, and the Fish and Wildlife Act of 1956 (16 U.S.C. § 742a-742j), as amended.

The Refuge Administration Act directs the strategic growth of the Refuge System and authorizes the acquisition and management of lands for the Refuge System. The Fish and Wildlife Act authorizes the acquisition of refuge lands for development, advancement, management, conservation, and protection of fish and wildlife resources with funding from the Land and Water Conservation Fund (LWCF) and other sources.

1.8 Acquisition Policies

The Service's land protection policy is to acquire land, or interests therein, only when other protective means to achieve program goals (such as zoning or regulation) are not appropriate, available, or effective. When lands are to be acquired, the minimum interest necessary to reach management objectives is acquired or retained. The Service strives to reduce costs by acquiring land through donation, exchange, easement acquisition, withdrawal, permit, and by cooperative agreements with landowners. When the Service determines it is necessary to acquire land, it acquires fee title (control of all property rights) only if acquisition of lesser property interest (such as easements or leases) is not available or would not achieve its conservation objectives. The Service has no authority to acquire land except within an approved refuge acquisition boundary.

It is Service policy to acquire lands from willing sellers and to offer fair market value for the land. Public Law 91-646, the Uniform Relocation Assistance and Real Property Acquisition Policies Act, as amended, requires that the Service offer a landowner 100 percent of fair market value of the property (as determined by an approved appraisal) and provide certain benefits and payments to persons displaced by the acquisition of land.

Acquiring lands that are not contaminated is also Service policy. Site-specific Pre-Acquisition Level I Contaminant Surveys would be conducted for each parcel prior to completion of any acquisition.

1.9 Land Acquisition Process

The Service acquires land for national wildlife refuges in a manner consistent with legislation or other congressional guidelines and Executive orders. The Service can protect habitat through various means, such as (1) the purchase of fee title or conservation easements, (2) transfers of other Federal lands, (3) donations, (4) exchanges, and (5) cooperative management agreements.

Acquisition funding may be made available through the LWCF or other sources to acquire lands, waters, or interest therein for fish and wildlife conservation purposes. The Federal monies used

to acquire private lands through the LWCF are derived primarily from outer continental shelf oil and gas receipts.
The basic considerations in acquiring land are (1) biological significance of the land, (2) existing and anticipated threats to wildlife resources, and (3) landowners' willingness to sell or otherwise make property available to the Service. The purchase of lands proceeds according to the willingness of sellers and availability of funds.

1.10 Refuge Revenue Sharing Act of 1935, as Amended

Under provisions of the Refuge Revenue Sharing Act (16 U.S.C. 715s) (RRSA), the Service would make an annual payment to Clark County to help offset property tax revenue lost as a result of acquisition of private property. This law states that the Secretary of the Interior (Secretary) will pay to each county in which an area acquired in fee title is situated the greater of the following amounts:

- An amount equal to 75 cents per acre for that portion of the fee area which is located within such county;
- An amount equal to three-fourths of 1 percent of the fair market value, as determined by the Secretary, for that portion of the fee area that is located within such county; or
- An amount equal to 25 percent of the net receipts generated and collected on the Refuge.

If these funds are insufficient to make full payments to the counties, Congress is authorized to appropriate funds to make up any shortfall. When Congress does not appropriate sufficient funds, counties receive a pro-rata reduction in their RRSA disbursement. Payments would be made only on lands that the Service acquires in fee title. On lands where the Service acquires only partial interest through easement, all taxes would remain the responsibility of the individual landowner.

1.11 Compliance

The proposed acquisition boundary expansion area will be in compliance with Service policies and the following laws and regulations: NEPA; Executive Order 12372 (Intergovernmental Review of Federal Programs); Executive Orders 11988 (Floodplain Management) and 11990 (Protection of Wetlands); Endangered Species Act (ESA); Uniform Relocation Assistance and Real Property Acquisition for Federal and Federally Assisted Programs (Uniform Act of 1970), as amended; Executive Order 11593 (Protection of Historical, Archaeological, and Scientific Properties) including the National Historic Preservation Act of 1966 (NHPA), as amended; the Archaeological Resources Protection Act; the Native American Graves Protection and Repatriation Act of 1990; Executive Order 12996 (Management and General Public Use of the National Wildlife Refuge System); Secretary's Order 3127 (Contaminants and Hazardous Waste); the Refuge Administration Act; and other applicable laws.

1.12 Scope of the Environmental Assessment

This draft EA evaluates the environmental effects of expanding the current Refuge acquisition boundary with the addition of 88 acres. The LPP includes the conceptual management plan for the proposed Oaks Unit.

Chapter 2. Alternatives Considered

2.1 Land Selection and Alternatives Considered

Two alternatives have been considered for this proposal. The proposed Oaks Unit addition (Preferred Alternative) includes nine land parcels totaling approximately 88 acres for potential addition to the Refuge. These properties were included in this proposal because they have value as quality wildlife habitat and therefore complement the Service's mission and the Refuge's purposes; they are contiguous with the existing Refuge and other state-protected areas managed for similar conservation priorities; and several landowners have expressed an interest in selling their lands.

2.1.1 Alternative 1 – Current Land Status (No Action)

Under Alternative 1, the Current Land Status Alternative, the Refuge's acquisition boundary would not be expanded to include additional habitat. The lands would remain privately owned, managed, and available for residential or agricultural development, subject to any existing deed and land-use restrictions or permitting requirements. No public funds would be expended for the purchase of additional property to the Refuge.

2.1.2 Alternative 2 – Oaks Unit Expansion (Preferred Alternative)

Under Alternative 2, the preferred Oaks Unit Expansion Alternative, the approved Refuge acquisition boundary would be expanded to include nine parcels, approximately 88 acres, to protect Oregon white oak woodland habitats for a variety of plant and animal species.

The Refuge may purchase Oregon white oak woodland habitats within the boundary expansion area as willing sellers come forward and as funding becomes available. Management of the acquired lands would be consistent with the Refuge's Comprehensive Conservation Plan (CCP) (USFWS 2005) and would be consistent with any future revisions of the CCP.

Any land acquired in this expansion proposal would become part of the Refuge System and be unavailable for agricultural, residential, commercial, or industrial development. All cultural sites or resources present on lands acquired would be protected. The Refuge, in compliance with appropriate laws and policies, would control all public access and visitor use. Under current law, tax losses would likely be largely offset by payments authorized by the RRSA (see section 1.10). The acquisition costs would be requested over time from the LWCF (see section 1.9). The Refuge will incur costs associated with operations and maintenance (see LPP section H).

Chapter 3. Affected Environment

This chapter describes the physical, social, economic, and biological environments within the Refuge area relevant to the proposed project. The reader is referred to the Refuge's 2005 CCP , or the Regional Office's planning website (http://www.fws.gov/pacific/planning/main/docs/WA/docscgorge.htm) for a more complete description of the physical, biological, and cultural environment. Described here are the resources that are likely to be affected by the proposed project and land use activities.

3.1 Physical Environment

3.1.1 Soils

Soil textures and characteristics have been mapped and described by the Natural Resource Conservation Service in the Soil Survey of Clark County, Washington. In Clark County, Lauren gravelly loam, cemented substratum, 20–55 percent slopes, predominates as the mapped soil series on the slopes and in the ravines (McGee 1972). The Lauren series is described as being derived from Columbia River alluvium with some volcanic ash. Significant portions of the upper slopes in Clark County are mapped as Olympic stony clay loam, 30–60 percent slopes. Adjacent soils are described as being derived from weathered igneous lava flows or associated colluvium, and underlain by basalt bedrock at a depth of 40 inches or more. Small areas of the slopes and most of the terraces above in Clark County are mapped as Hesson series clay loams, deeply weathered old alluvium.

3.1.2 Climate and Climate Change

The predominant climate of western Washington is characterized by mild, rainy winters and dry, warm summers. In fall and winter, low pressure centers in the Gulf of Alaska, shifting high pressure to the south. Circulation of air around the low pressure in the North Pacific Ocean brings a prevailing flow of warm, moist marine air into western Washington. The Coast Range protects much of western Washington from severe winter storms moving inland from the ocean. A colder and drier continental air mass is typical for winters in the eastern portion of the state.

The moist marine air mass of the west and cool continental air mass of the east are largely separated by the Cascade Range. The Columbia River Gorge functions as a low-elevation pass through the Cascade Range, allowing air exchange between the inland and coastal areas of the state. The convergence of these air masses results in highly variable and, at times, extreme weather. Winter winds generally blow from east to west, bringing gale force winds to the Gorge. The funneling of air masses through the Gorge has yielded winds of 80 miles per hour. The blend of moist marine air and cold continental air in the Gorge periodically produces snow and ice, even on the valley floor. During the winter, clouds form over the Pacific Ocean and move inland on prevailing westerly winds. As these clouds encounter the Cascade Range, moisture condenses and falls as precipitation. Annual precipitation immediately west of the Cascade Range, near North Bonneville, averages 77.5 inches. In comparison, annual precipitation in Portland, approximately 30 miles to the west, averages 38 inches. The Refuge lies approximately half-way between these two areas.

Late in spring, high pressure establishes itself over the northern Pacific Ocean, bringing a prevailing flow of cool and comparatively dry air from a northwesterly direction. As the air moves inland, it becomes warmer and drier. As a result, a dry season begins late in spring and reaches a peak in midsummer. The drier air mass makes precipitation less likely, with only 20 percent of rainfall in the Gorge occurring from April to September. Summer winds tend to be more moderate and directed up the Columbia River between May and October.

A growing body of scientific evidence has emerged supporting the theory of human-caused global climate change. During the 20th century, the global environment experienced increases in average worldwide temperatures, sea levels, and chemical concentrations. Average annual air temperatures on the earth's surface have increased by 1.3°F since the mid-19th century (Solomon et al. 2007). Furthermore, the increase in global temperatures over the last 50 years is approximately twice the increase of the previous 50 years (IPCC 2007). Globally, during 11 of 12 years from 1995 to 2006, surface temperatures were the warmest on record since 1850 (IPCC 2007).

During the next 20 to 40 years, the climate of the Pacific Northwest (Washington and Oregon) is projected to change significantly. Important changes in future precipitation are also predicted: nearly all the climate models project wetter winters and drier summers in the 2020s and the 2040s (Mote et al. 2003).

3.1.3 Hydrology and Water Quality

The localized hydrology of the Oaks Unit is dependent upon natural influences, including climatic conditions, seeps, springs, and drainage within the localized watershed area. These hydrological conditions may also be influenced by activities occurring on the land such as development and construction activities (roads, buildings, impoundments, ditches). Seeps appear to be relatively frequent features on some of the steep slopes that are in the proposed unit. One important feature of the larger Refuge area is Gibbons Creek, west of the proposed expansion area, flowing south through the Refuge and into the adjacent Columbia River.

3.1.4 Air Quality

In summer and fall, air inversions and idle air masses are common to the valleys of southwest Washington and the Portland metropolitan area. Stagnant air masses can accumulate pollutants and emissions to unhealthy levels. These pollutants are largely generated by motor vehicles and industries in the Portland–Vancouver Air Quality Maintenance Area, which bisects the Refuge. These patterns are often improved by moderate westward breezes, which disperse pollutants from the metropolitan areas up the Columbia Gorge.

Air quality monitoring stations in the Columbia River Gorge National Scenic Area have identified ozone concentrations at or above the injury threshold for sensitive lichens. The Scenic Area has relatively poor visibility in comparison to 17 other locations in the northwest where visual quality is important to scenic values.

3.1.5 Environmental Contaminants

As of July 2013, none of the Oaks Unit parcels are on the EPA National Priority List or in their Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) information system (EPA 2013). Under Service policy, the Refuge is required to conduct a Pre-acquisition Level I Contaminant Survey for each parcel prior to completion of acquisition. The Refuge is not aware of any contaminants on any of the proposed lands, although potential pollutants on lands used for agriculture could include fertilizers, pesticides, herbicides, or animal waste.

3.2 Social and Economic Environment

3.2.1 Population Centers and Local Land Use

The Portland–Vancouver metropolitan area is the largest human population center in Oregon and the second largest population center in the state of Washington. The metropolitan area has grown from a population of 100,000 in 1890 to more than 1.9 million in 2000. Clark County is considered within the metropolitan area. The population in Clark County has grown 45 percent from 1990 to 2000, and most residents live in rapidly growing suburban communities. In 1990, 36 percent of workers commuted outside Clark County to work primarily in the greater Portland area. From 2000 to 2010, the population of Clark County increased by approximately 17 percent. According to Oregon Metro, the population of Clark County is expected to increase by 43 percent from 2010 to 2035.
(http://library.oregonmetro.gov/files//population_housing_forecasts_by_city_county.pdf)

The local community of Washougal has a population of approximately 14,000 and continues to expand. The city of Camas, to the west of the Refuge and Oaks Unit, has a population of approximately 20,000. Occupations in the area provide various services, manufacturing, and retail sales. Household income levels within the county are higher relative to the state average.

Present land use in the vicinity of the proposed Oaks Unit expansion includes agricultural lands and single-family residential homes. There is one residence within the proposed Oaks Unit area on a 5-acre parcel with an easement access road. Most of the parcels within the proposed unit area were formerly agricultural and forest lands. To the south of the Oaks Unit is the Refuge with public use activities including hiking, environmental education, and interpretation. The area north of the unit is mostly agricultural land with some low-density residential development and scattered patches of forest.

The Columbia River borders the Refuge on its south side. State Highway 14 runs east-west through the Refuge, and borders portions of the proposed unit. To the west of the unit and north of Highway 14, agriculture and low-density residential development can be found. A narrow band of forest with some oak extends west of the Oaks Unit on the south-facing slope. The current Refuge habitats provide a mosaic of herbaceous and open-water wetlands, former agricultural lands, and cottonwood forest patches.

To the east of the unit, oak forests predominate in the landscape in the Washougal Oaks NAP, which is closed to public uses. Agricultural lands and low-density residential developments are present in small areas to the east.

3.2.2 Refuge Contributions to the Economy

The Refuge contributes to the local economy through visitors spending locally and Refuge management spending for programs (maintenance, restoration, and equipment). The spending by visitors to the Refuge affects the local economy by creating jobs and generating tax revenue. In addition to recreational expenditures, revenues to the local economy are derived from annual Federal payments to Clark County authorized by the RRSA. Sections below outline the economic impact Refuge have visitors contributed to the local economy. For more detail on methodology, please refer to "Banking on Nature 2011: The Economic Benefits to Local Communities of National Wildlife Refuge Visitation."

Table 3.1 shows a summary of the area economy. The area population increased by 15 percent from 2001 to 2011, compared with a 12 and 14 percent increase for the states of Oregon and Washington, respectively, and a 9 percent increase for the U.S. as a whole. Area employment increased by 8 percent from 2001 to 2011, with Oregon and Washington showing a 6 and 9 percent increase and the U.S. showing a 6 percent increase. Area per capita income decreased by 2 percent over the 2001 to 2011 period, while Oregon increased 1 percent, Washington increased 5 percent, and the U.S. increased by 5 percent.

Table 3-1. Summary of Area Economy, 2011
(Population & Employment in 000's; Per Capita Income in 2011 dollars)

	Population		**Employment**		**Per Capita Income**	
County	2011	Percent change 2001–2011	2011	Percent change 2001–2011	2011	Percent change 2001–2011
Clackamas, OR	380.2	11%	218.1	11%	$45,915	-1%
Multnomah, OR	748.0	12%	577.2	5%	$41,658	-4%
Washington, OR	540.4	17%	296.9	10%	$42,639	1%
Clark, WA	433.4	21%	183.7	15%	$37,695	-3%
Area Total	**2,102.1**	**15%**	**1,275.9**	**8%**	**$41,863**	**-2%**
Oregon	3,871.9	12%	2,221.8	6%	$37,527	1%
Washington	6,830.0	14%	3,828.6	9%	$43,878	5%
United States	311,591.9	9%	175,834.7	6%	$41,560	5%

Source: U.S. Department of Commerce November 2012.

3.2.3 Recreation

The Refuge offers 3 miles of walking and hiking trails through a variety of habitats. As part of the education program, the Refuge offers guided walks and school environmental education programs led by volunteers and staff. Interpretive programs are offered on various topics such as bats and birds with occasional guided night hikes. The Refuge's environmental education program averages 300 students per year. Currently none of the trails within the boundary offers public access to the 14 acres of Oregon white oak forest habitat. A new trail or overlook could be established within the preferred acquisition expansion area to offer a greater diversity of habitat and wildlife viewing opportunities. The LPP discusses conceptual habitat and public use management opportunities.

Table 3.2 shows the estimated recreation visits as reported by Refuge staff for various activities in 2011**.** It is estimated that in 2011, there were approximately 43,831 visitors to the Refuge, and the majority of the visitors utilize the trail system. All visits were for non-consumptive activities.

Table 3.2 Recreation Visits 2011

Activity	Residents	Non-Residents	Total
Non-Consumptive:			
Pedestrian	31,520	7,880	39,400
Interpretation	913	228	1,141
Photography	1,312	328	1,640
Other Recreation	1,320	330	1,650
Total Visitation	**35,065**	**8,766**	**43,831**

Source: Steigerwald Lake NWR/Banking on Nature Report

Regional Economic Analysis

The economic area for the Refuge is the Portland Metropolitan Area, including Clark County, Washington, and Multnomah, Washington, and Clackamas Counties, Oregon. It is assumed that visitor expenditures occur primarily within these counties. Visitor recreation expenditures for 2011 are shown in Table 3.3. Total expenditures were $721,900, with non-residents accounting for $434,200 or 60 percent of total expenditures.

Input-output models were used to determine the economic impact of expenditures on the Refuge's local economy. Table 3.4 summarizes the local economic effects associated with recreation visits. Final demand totaled $1.4 million with associated employment of 10 jobs, $406,700 in employment income, and $183,200 in total tax revenue.

Table 3.3 Visitor Recreation Expenditures (2011 $,000)

Activity	Residents	Non-Residents	Total
Non-Consumptive	$287.7	$434.2	$721.9
Total Expenditures	**$287.7**	**$434.2**	**$721.9**

Source: Banking on Nature 2011

Final demand, the total spent by all consumers for all goods, includes spending by people who earn income from Refuge visitors' activities (e.g., restaurant and hotel owners and employees) as well as spending by Refuge visitors themselves.

Table 3.4 Local Economic Effects Associated with Recreation Visits (2011 $,000)

	Residents	Non-Residents	Total
Final Demand	$540.4	$820.2	$1,360.5
Jobs	4	6	10
Job Income	$163.0	$243.8	$406.7
Total Tax Revenue	$74.6	$108.6	$183.2

Source: Banking on Nature 2011

3.3 Cultural and Historic Resources

3.3.1 Cultural Resource Surveys

About 75 percent of Service-owned land at Steigerwald Lake NWR has been surveyed for cultural resources. In 1985, Heritage Research Associates surveyed 682 acres of land that eventually became Steigerwald Lake National Wildlife Refuge. Minimal evidence of Native American and Immigrant American occupation and use of the area was found. It is almost certain, however, that the Chinook gathered wapato, camas, and other marsh plants for food and other uses at Steigerwald Lake, but these activities leave little in the way of archeological record and no evidence of any prehistoric camps or villages has been found to date. Additional surveys at Steigerwald Lake NWR on about 40 acres found no identifiable cultural resources (USFWS 2005). No surveys have been conducted on the proposed Oaks Unit addition. By policy, all future Refuge lands would protect any cultural resources found, and surveys would be conducted prior to any ground disturbing Refuge management activities.

3.3.2 Historic Land Use

Historically, forested bottomlands along the lower Columbia River, including the Steigerwald Lake basin, were cleared to make room for pastures, crops, and dairy farms. After World War II, as the population of Clark County grew, a large portion of the agricultural lands were lost to urbanization. Data from 1992 showed one-fifth of Clark County to be farmland, with crops comprising the largest area; however, livestock, nurseries, and greenhouses provided the greatest

farm income. Half of the land area in Clark County is non-Federal timberland, while Federal timberlands account for less than 1 percent of the land area.

3.4 Biological Resources

3.4.1 Oak Woodland and Oak Savanna

Several distinct woodland habitat types are present within the proposed Oaks Unit acquisition boundary. Habitat features of interest include approximately 40 acres of oak savanna habitat, which is dominated by open grassland sparsely populated by large-diameter Oregon white oak (*Quercus garryana*), with an occasional mix of large Douglas-fir (*Pseudotsuga menziesii*) and bigleaf maple (*Acer macrophyllum*). Nonnative reed canarygrass (*Phalaris arundinacea*) and Armenian blackberry (*Rubus armeniacus*) currently dominate the grasslands due to former cattle grazing activities, which have contributed to the elimination of trees regenerating in the open savanna. This area of oak savanna is slightly sloped and faces the south (see Photo 1).

Photo 1. Oregon white oak savanna at sunset. Photo: Huntington

The southern facing slope is 43 acres of mixed forest with a 50–80 percent canopy cover, dominated by Oregon white oak, and a mixture of red alder (*Alnus rubra*), bigleaf maple, and some Douglas-fir. Trees vary in size, some reaching up to 22 inches in diameter (see Photo 2). Red alder, bigleaf maple, or a mixture of the two also dominates smaller areas of forest.

The remaining 5 acres is a residence in the center of the proposed acquisition area.

Photo 2. Mixed Forest dominated by Oregon white oaks. Photo: Huntington

Oregon white oak/oval-leaf viburnum-poison-oak forest

The Oregon white oak/oval-leaf viburnum-poison-oak forest is dominated in the canopy by oak, generally with few to no other tree species except an occasional Douglas-fir or bigleaf maple. The tree layer typically displays 70–90 percent crown cover. The oaks are often relatively small, though individual trees are present up to about 18 inches in diameter.

The well-developed shrub layer is dominated by oval-leaf viburnum (*Viburnum ellipticum*), poison-oak (*Toxicodendron diversiloba*), common snowberry (*Symphoricarpos albus*), and more sporadically, oceanspray (*Holodiscus discolor*). Several other shrub species are frequent.

The herbaceous layer is more variable in composition and not as prominent as the shrub layer. Species include licorice fern (*Polypodium glycyrrhiza*), great camas (*Camassia leichtlinii*), small-flowered nemophila (*Nemophila parviflora*), enchanter's nightshade (*Circea alpina*), woods strawberry (*Fragaria vesca*), fringecup (*Tellima grandiflora*), bigleaf sandwort (*Moeringia macrophylla*), western Solomon's seal (*Maiathemum racemosum*), oval-leaf penstemon (*Penstemon ovatus*), Columbian larkspur (*Delphinium trollifolium*), cleavers (*Galium aparine*), and Nuttall's peavine (*Lathyrus nevadensis*). The sites occupied by this association appear to have relatively shallow soil or very stony soil, are typically south-east to south-west aspects, and occur on gentle to very steep slopes.

Douglas-fir-Oregon white oak/snowberry forest

The Douglas-fir-Oregon white oak/snowberry forest is mostly dominated by a mixture of oak and Douglas-fir, sometimes with a prominent component of bigleaf maple and sometimes with little Douglas-fir (in which case it is distinguished from the previous association by its understory). The canopy is usually closed, with over 80 percent crown cover. Trees are usually larger here than in the previous association; many individual oaks are over two feet in diameter, and some Douglas-fir are even larger. Douglas-fir saplings or small trees are locally numerous.

A well-developed shrub layer is somewhat variable in composition and almost always has a prominent to dominant component of common snowberry. Other shrubs that sometimes co-dominate include beaked hazel (*Corylus cornuta*), serviceberry (*Amelanchier alnifolia*), dwarf Oregon grape (*Mahonia nervosa*), trailing blackberry (*Rubus ursinus*), and vine maple (*Acer circinatum*).

The herbaceous layer is not as prominent as the shrub layer and usually has a major component of swordfern (*Polystichum munitum*). Other common herbs include snow queen (*Synthris reniformis*), woods strawberry, bigleaf sandwort, fringecup, inside-out flower (*Vancouveria hexandra*), pioneer violet (*Viola glabella*), Oregon fawn-lily (*Erythronium oreganum*), parsley-leaf lovage (*Ligusticum apiifolium*), Columbian larkspur, and Alaska oniongrass (*Melica subulata*). This association typically occurs on somewhat deeper or less stony soils than the other oak association and a somewhat broader range of aspects.

3.4.2 Wildlife

The Refuge's oak woodlands are known to provide habitat for a suite of oak-associated landbird species that are now rare in western Washington, including the slender-billed white-breasted nuthatch and acorn woodpecker (*Melanerpes formicivorus*). Other landbird species found in this habitat include Bewick's wren *(Thryomanes bewickii),* western wood-pewee *(Contopus sordidulus),* downy woodpecker *(Picoides pubescen*s), and common bushtit (*Psaltriparus minimus*). Refuge oak woodland may provide habitat for western gray squirrel, although the presence of this species has not been confirmed. Reptiles such as northern alligator lizard *(Elgaria coerulea)* and western skink *(Eumeces skiltonianus)* also utilize oak woodland. It potentially could provide habitat for the sharp-tailed snake *(Contia tenuis),* although its presence has not been confirmed.

3.4.3 Species of Concern

Western gray squirrel (Sciurus griseus). State-listed by the Washington Department of Fish and Wildlife (WDFW) as Threatened, the Refuge lies within the historic range of the western gray squirrel and contains suitable habitat; however, its presence has not been confirmed. Western gray squirrels have been extirpated from much of their historic range due to habitat loss and competition with nonnative eastern gray squirrels.

Slender-billed white-breasted nuthatch (*Sitta carolinensis aculeata*). Listed as a State Candidate by WDFW, slender-billed white-breasted nuthatches are commonly associated with Oregon white oak (Chappell 2005, Hagar 2006). Nuthatch densities are greater in areas with higher numbers of large trees, which provide more surface area for foraging and provide more natural cavities for nesting and roosting (Hagar and Stern 2001, Viste-Sparkman 2006).

Photo 3. Slender-billed white-breasted nuthatch. Photo: Rod Gilbert

3.4.4 Native Plant Species

Native plant species that are associated with this habitat include poison oak *(Toxicodendron diversilobum),* snowberry, rose, spirea, oval-leafed viburnum, native *Rubus* spp, ninebark *(Physocarpus*), Indian-plum *(Oemleria cerasiformis),* tall Oregon grape *(Mahonia aquifolium),* and elderberry *(Sambucus nigra).* Native ground cover species include a native component of flowering perennial herbaceous plants (e.g., Solomon's seal, trillium, lilies, columbine, sanicle).

3.4.5 Invasive Species

Nonnative reed canarygrass and Armenian blackberry currently dominate the grasslands due to former cattle grazing activities, which have contributed to the elimination of trees regenerating in the open savanna. The Refuge utilizes an Integrated Pest Management (IPM) approach to deal with invasive species on the Refuge. IPM is an interdisciplinary approach utilizing methods to prevent, eliminate, contain, and control pest species or invasive species. IPM is used in concert with other management activities on Refuge lands and waters to achieve wildlife and habitat management goals and objectives. IPM is also a scientifically based, adaptive management process where available scientific information and best professional judgment of Refuge staff as well as other resource experts would be used to identify and implement appropriate management strategies that can be modified or changed over time to ensure effective, site-specific management of invasive species to achieve desired outcomes.

Chapter 4. Environmental Consequences

4.1 Alternative 1. Current Land Status (No Action)
Alternative 2. Oaks Unit Expansion (Preferred Alternative).

A complete description of the alternatives is provided in Chapter 2 of this document. Described here are the resources that are likely to be affected by the proposed boundary expansion as lands are acquired for the Refuge. Under Alternative 1, Current Land Status (No Action), the Refuge's acquisition boundary would remain the same. Under Alternative 2, Oaks Unit Expansion (Preferred Alternative), the Service would expand the Refuge's acquisition boundary by approximately 88 acres.

4.1.1 Effects on the Physical Environment

Soils

Alternative 1. Current Land Status:
Existing uses of the privately owned lands would continue. On lands zoned for agricultural uses, effects to soils may occur such as compaction, trampling, contaminants, and erosion from use by farming techniques and equipment, cattle grazing, and vehicle use. Lands developed for residential purposes would likely affect the soils with compaction and possible erosion. The degree of impact to the soils would depend on the specific actions taken by private landowners on these lands.

Alternative 2. Oaks Unit Expansion:
With future acquisition, the Refuge's long-term commitment to maintenance and restoration of the forest resources and vegetative cover would conserve and enhance the soil processes. There would be short-term, minor negative effects due to the restoration activities. Any future recreational trails would have long-term but highly localized soil impacts. Proposed trails would require further evaluation of all resource impacts prior to design and construction. Thus, implementation of this alternative would likely result in long-term, moderate, beneficial effects to soils.

Overall Effects to Soils
Overall, effects to the soils would be neutral under Alternative 1, dependent on the activities. Long-term effects for the actions under Alternative 2 would be positive.

Climate Change

Expanding the Refuge boundary to include the identified lands would not have an appreciable effect on global or regional climate. It would, however, have positive effects on the ability to increase the resiliency of native species and ecosystems to adapt to a changing climate. Adapting to change could be facilitated by increasing available and potential habitat, reducing habitat fragmentation, and increasing habitat connectivity. Expanding the boundary would also positively affect climate change mitigation efforts by conserving carbon sequestration. Over the

long-term, invasive species control, habitat restoration, and habitat management will enhance the resiliency of native species and ecosystems and increase carbon sequestration.

Hydrology and Water Quality

Alternative 1. Current Land Status:
Existing hydrological actions, including irrigation, conveyance ditch construction, and well drilling, can be dictated by private land uses. Under Alternative 1 there would be no change to hydrology as lands would be maintained as they are now. Changes to land use may occur at any time and would be based on land use zoning and private ownership decisions. Uses have been open to agricultural and residential housing effects. Water run-off on agricultural lands grazed by cattle would likely have an impact due to soil compaction. It is likely the long-term effects to hydrology and water quality would remain the same and future changes, either positive or negative, would likely go undetected.

Alternative 2. Oaks Unit Expansion:
If the Refuge acquires these properties, the restoration of the habitats would improve the hydrology and water quality on the Refuge lands. Restoration activities in the short-term may have minor negative effects to the hydrology and water quality but these would be off-set by the long-term positive effects of restoring and protecting forests, forest understory, and plant communities. Future habitat restoration and reduction of cattle grazing would benefit the overall water quality for wildlife and the health of their habitats. Acquisition of these properties, therefore, is likely to have moderate beneficial effects to water quality within the watershed. Acquisition of these properties would not affect any existing water rights or water uses other than any acquired water rights appurtenant to acquired lands.

Overall Effects to Hydrology and Water Quality
Alternative 1 would be expected to have a neutral effect to hydrology and water quality from the current land uses. Alternative 2 would be expected to have minor, long-term positive effects to hydrology and water quality on the Refuge with protection and habitat restoration.

Environmental Contaminants

Alternative 1. Current Land Status:
Under this alternative, the lands would remain in private ownership. Land use management activities such as agricultural uses and residential development may increase use of fertilizers, pesticides, herbicides, and animal waste. These uses could cause short- and long-term negative effects to the natural resources of the site and adjacent Refuge resources.

Alternative 2. Oaks Unit Expansion:
Refuge acquisition would likely have positive long-term beneficial effects to the resources. Some use of herbicides may be utilized to control invasive plant species such as Armenian blackberry. The use and habitat management activities associated with chemical uses is closely monitored and only pesticide uses that would likely cause minor, temporary, or localized effects to Refuge biological resources and environmental quality with appropriate best management practices, where necessary, would be allowed for use on these properties.

4.1.2 Effects to the Social and Economic Environment

Recreation

Alternative 1. Current Land Status:
No public uses would take place as the lands would remain in private ownership.

Alternative 2. Oaks Unit Expansion:
Trail access from the main Refuge Unit and the Washougal Oaks NAP areas would be considered in the future. A new trail or overlook could be established within the preferred acquisition boundary to offer a greater diversity of habitat and wildlife viewing opportunities on the Refuge. Trail access would be further analyzed in future planning activities with partners. Increased visitation could produce a slight increase in economic benefits to the community. The Refuge's environmental education program could be expanded to include formal and informal events highlighting habitat restoration activities within the expansion area.

Economic Environment

Alternative 1. Current Land Status:
Not expanding the Refuge acquisition boundary to include the available lands under consideration is likely to have minimal or negligible effect on the social and economic environment of the local communities.

Alternative 2. Oaks Unit Expansion:
Refuge-wide visitation numbers project an increase in recreational trail use by approximately 3 percent annually (USFWS 2005). Birders are one of the largest components of visitors to the Refuge. General recreation users utilizing the Refuge's dike trail include horseback riders, bicyclists, and hikers. Trips to the Oaks Unit would depend on expansion of access to the area, and may include educational trips guided by volunteers or staff. The annual net increase of visitors to the Refuge could increase spending on additional goods and services in the area (food, gas, and lodging). It is likely that the increase in visitor spending for the expansion area would be negligible in the long-term. However, in conjunction with the overall Refuge, long-term visitor spending is expected to increase as visitation continues to increase. Overall, the long-term effects from increased visitation to the area economy are expected to be minor.

4.1.3 Effects on Cultural and Historic Environment

Alternative 1. Current Land Status:
Cultural resources would remain subject to state and local regulations and permitting. Cultural resources could be adversely affected by various future land uses or development should they exist onsite. Activities not requiring permits could contribute to loss or damage of cultural resources, especially if they have not been identified. Because the presence of cultural resources on the lands under consideration have not been documented, it is not possible to determine the effects of future unknown actions.

Alternative 2. Oaks Unit Expansion:
The Service is required to comply with numerous laws pertaining to cultural resources, including NHPA (16 U.S.C. 470 et seq; Pub. Law 89-665); the Archaeological Resources Protection Act of 1979 (16 U.S.C. 470aa-470mm; Pub. Law 96-95), as amended; and the Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001 et seq.; Pub. Law 101-601).

Expanding the approved acquisition boundary is not considered an undertaking as defined by NHPA because expanding the approved boundary, by itself, will not result in changes in the character or use of known or unknown cultural resources. Moreover, because the parcels proposed for acquisition will be brought into the Federal land management system and thus subject to Federal historic preservation laws, the process of acquisition itself is not an undertaking subject to compliance with Section 106 of NHPA.

The Service will follow established procedures for evaluating effects and protecting cultural resources that may be found in the future on any of the acquired parcels. This includes complying with NHPA, other cultural resource preservation laws, and consulting with the State Historic Preservation Office and interested Native American Tribes on any future construction, restoration, or management actions which may have the potential to affect cultural resources.

Because of these requirements, which may not apply or be fully effective in protecting cultural resources on private land, Alternative 2 would provide a moderate benefit to cultural resources if any are found in the Oaks Unit, when compared to the no action alternative. Any Refuge ground-disturbing activities would require cultural resource evaluation of the site.

4.1.4 Effects on the Biological Environment

Oak Woodlands and Oak Savanna

Alternative 1. Current Land Status:
Under this alternative, no additional forest habitat would be protected or managed by the Refuge. This habitat would remain in private ownership and managed by owner preferences and local zoning restrictions. These private land parcels are currently undeveloped except for one residence and out building. The existing oak communities would likely continue to contain a large understory and open grassland containing invasive plant species. Natural regeneration of native trees would likely occur at a slower rate, if at all, due to private land management practices (cattle grazing, mowing). Understory plant communities and forests would not be protected and enhanced for diversity. Without management, the value of these lands for native species would decrease due to the increasing occurrence of nonnative plants and possible loss of oak woodlands. Over time, this would have a minor adverse effect on native species and forests. We conclude, therefore, that the no action alternative would have minor adverse effects on native habitats.

Alternative 2. Oaks Unit Expansion:
The Refuge would protect, and where appropriate, enhance oak savanna and woodland habitats to support wildlife. Removal of invasive species to improve forest health and support forest successional stages would help to establish a diverse Oregon white oak forest habitat. Forest

management activities would be implemented to ensure the viability of a healthy oak community. Refuge management activities would have a long-term, positive benefit to the viability and health of this forest ecosystem.

Species of Concern

Alternative 1. Current Land Status:
Under Alternative 1, the Refuge acquisition boundary would not change. The parcels under consideration for acquisition are mostly undeveloped, and there is no commitment for protection or restoration of these parcels. The lands would remain privately owned and available for agricultural or residential development that could negatively affect the native species and ecosystems occurring there. Even if development did not occur, under this alternative there would not likely be any management to protect or restore habitats.

Most listed species or species of concern face numerous threats, including habitat loss, degradation, and fragmentation. Additional land protection measures are a primary action identified in the recovery plans or habitat conservation plans for most such species. Without management, the value of these lands for native species would decrease due to the increasing occurrence of nonnative plants and possible loss of oak woodlands. Over time, this would have a minor adverse effect on native species and forests. We conclude, therefore, that the no action alternative would have minor adverse effects on the ability to recover these species.

Alternative 2. Oaks Unit Expansion:
Under Alternative 2, the proposed Oaks Unit addition would, in conjunction with the local protected areas (Washougal Oaks NAP), improve habitats for state-listed species and species of conservation concern. By protecting and restoring these lands, it would provide the Service an opportunity to assist in the recovery of these rare species. The long-term results of this action would likely have a positive result for the health, protection, and enhancement of the native oak forests and associated habitats.

The proposed Oaks Unit addition, and Steigerwald Lake NWR, lie within the South Cascades Recovery Area for the western gray squirrel (Linders and Stinson 2007). Habitat protection and improvement that would occur under the preferred alternative would support the goals and strategies outlined for the South Cascades Recovery Area.

Invasive Species

Alternative 1. Current Land Status:
Under this alternative, without management, invasive species such as Armenian blackberry and reed canarygrass will continue to displace native vegetation, altering the composition and structure of the native oak vegetation communities, resulting in considerable impacts to native wildlife.

Alternative 2. Oaks Unit Expansion:
The preferred alternative would allow the Refuge to work to control invasive species on any acquired lands. This would have moderate beneficial effects on native species and ecosystems.

Control of invasive species on newly acquired lands would also have moderate beneficial effects to adjacent existing conservation lands by reducing the source populations of invasive species.

4.2 Cumulative Impacts

The proposed action would expand the Refuge's acquisition boundary by approximately 88 acres and could result in additional habitat being protected, restored, and managed in perpetuity. The Service would manage any acquired lands to provide for the conservation, protection, and restoration of Oregon white oak woodland, oak savanna, and mixed Oregon white oak/Douglas-fir forest types and the wildlife these habitats support.

The proposed habitat expansion would contribute to the recovery of state-listed species and two species of concern, reduce habitat fragmentation, and improve landscape connectivity among important conservation areas. Management actions, such as invasive species control, would benefit not only newly acquired lands, but also the existing Refuge and contribute to efforts to control the spread of nonnative species to adjacent properties managed for habitat conservation purposes. Additional lands may eventually be opened to public use, providing direct opportunity for enjoyment of nature and wildlife. However, even if these lands are never opened to the public, managing additional lands for conservation purposes would strengthen and support native species populations in the Columbia River Gorge, benefitting recreationalist using the Refuge and surrounding lands.

Chapter 5. Coordination, Consultation, and Cooperation

5.1 Public Involvement

The Refuge worked with a variety of interested parties to identify issues and concerns associated with the proposed Refuge expansion. These interested parties included private groups, landowners, elected officials, and state, Federal, tribal, and local government agencies. The Refuge's public involvement activities included meetings with landowners, developing a planning update, updating the website, and responding to inquiries. The Refuge provided information about the proposal to the local newspapers and other interested or affected parties in the area with the release of the draft LPP/EA.

Prior to the release of the draft LPP/EA, several agencies and individuals expressed support for the proposed addition to the Refuge. These include Camas Mayor Paul Denis, Washougal Councilman Paul Greenlee, Clark County Legacy Lands, Friends of the Columbia Gorge (FOCG), Columbia River Gorge NSA Commission, Washington Department of Natural Resources, Washington Department of Fish and Wildlife, and the Columbia Land Trust (CLT). Additionally, FOCG and CLT have both offered to be involved in acquiring the properties.

A planning update is being distributed in conjunction with the release of the draft LPP/EA, and another will be published with the release of the final decision regarding the LPP/EA.

5.2 Environmental Review and Consultation

In expanding the Refuge boundary, the Service would comply with Federal laws, regulations, and Executive orders. The following section describes specifically how expanding the Refuge is in compliance with NEPA, NHPA, ESA, and other relevant Federal laws, regulations, and Executive orders.

5.3 National Environmental Policy Act

As a Federal agency, the Service must comply with provisions of NEPA, as amended (42 U.S.C. 4321-4347). An environmental analysis is required under NEPA to evaluate reasonable alternatives that will meet stated objectives and to assess the possible environmental, social, and economic impacts to the human environment. The EA serves as the basis for determining whether implementation of the proposed action would constitute a major Federal action significantly affecting the quality of the human environment. The EA facilitates the involvement of government agencies and the public in the decision-making process.

5.4 National Historic Preservation Act

The Service would follow established procedures for protecting cultural resources if the Refuge is expanded. This includes complying with the NHPA of 1966 (16 U.S.C. 469) and other cultural resource preservation laws, and consulting with the State Historic Preservation Office and

appropriate Native American governments, if applicable, for any future restoration and management actions which may have the potential to affect historic properties.

5.5 Endangered Species Act

Expanding an approved Refuge boundary does not represent a Federal action which would affect species listed under the ESA. The Service would conduct consultation under Section 7 for any Refuge management program actions which have the potential to affect listed species.

5.6 Other Federal Laws, Regulations, and Executive Orders

In implementing the proposed action, the Service would comply with all applicable Federal laws, Executive orders, and legislative acts, including the following: Intergovernmental Review of Federal Programs (Executive Order 12372); Protection of Historical, Archaeological, and Scientific Properties (Executive Order 11593); Floodplain Management (Executive Order 11988); Protection of Wetlands (Executive Order 11990); Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) (42 U.S.C. 9601 et seq.); Management and General Public Use of the National Wildlife Refuge System (Executive Order 12996); Departmental Policy on Environmental Justice (Executive Order 3127); Uniform Relocation Assistance and Real Property Acquisition Policy Act of 1970, as amended; Refuge Recreation Act of 1962, as amended; and Consultation and Coordination with Indian Tribal Governments (Executive Order 13175).

5.7 Distribution and Availability

A planning update announcing the availability of the draft LPP/EA is being distributed to Federal and State elected officials, Tribes, county government, affected landowners, private groups, and other interested individuals. It will also be posted on the Ridgefield National Wildlilfe Refuge Complex, Steigerwald Lake NWR, and Columbia Gorge Refuge Stewards websites (see 1.6 for website addresses). Printed copies of the draft LPP/EA will be available for public distribution at the Ridgefield National Wildlife Refuge office, 28908 NW Main Avenue, Ridgefield, WA.

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Notification List for Draft Land Protection Plan and Environmental Assessment
Proposed Addition to Steigerwald Lake National Wildlife Refuge, Clark County, Washington

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National Wildlife Refuge Information System
1 800/344 WILD

April 2014

The mission of the U.S. Fish & Wildlife Service is working with others to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people.

Cover photos:
Oak habitat. Huntington
Slender-billed white-breasted nuthatch. ©Scott Carpenter
Western scrub jay. ©Scott Carpenter
Common bushtit. Alex Critch

Back photo:
Oaks Unit addition. Chris Lapp